



# THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME;

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office

November 23, 2004

THIS IS TO CERTIFY THAT ANNEXED HERETO IS A TRUE COPY FROM THE RECORDS OF THE UNITED STATES PATENT AND TRADEMARK OFFICE OF THOSE PAPERS OF THE BELOW IDENTIFIED PATENT APPLICATION THAT MET THE REQUIREMENTS TO BE GRANTED A FILING DATE.

APPLICATION NUMBER: 60/478,700

FILING DATE: June 13, 2003

RELATED PCT APPLICATION NUMBER: PCT/US04/18860

Certified by



Jon W Dudas

Acting Under Secretary of Commerce  
for Intellectual Property  
and Acting Director of the U.S.  
Patent and Trademark Office

BEST AVAILABLE COPY



06-16-03

60478700 061303

A/R

Atty. Dkt. No. 023720-028

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Allen E. Johnson  
M. Scott Bryson

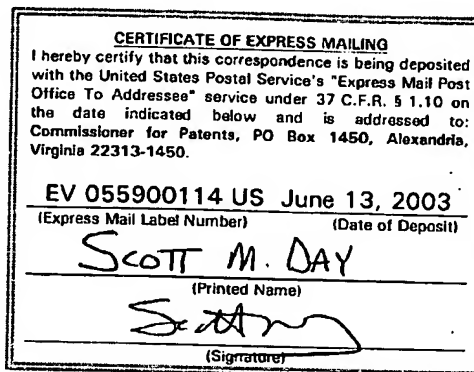
Title: MERCHANDISING  
SYSTEM

Application No.: Unknown

Filing Date: June 13, 2003

Examiner: Unknown

Art Unit: Unknown



Mail Stop PROVISIONAL PATENT APPLICATION  
Commissioner for Patents  
PO Box 1450  
Alexandria, Virginia 22313-1450

PROVISIONAL PATENT APPLICATION TRANSMITTAL

Transmitted herewith for filing under 37 C.F.R. § 1.53(c) is the provisional patent application of:

Allen E. Johnson  
6979 Lee Road  
Hartford, Wisconsin 53027

M. Scott Bryson  
2620 Glenmaura Place  
Brookfield, Wisconsin 53005

☐ Applicant claims small entity status under 37 CFR 1.27(c)(1).

Enclosed are:

- ☒ Specification (10 pages).
- ☒ Informal drawings (10 sheets, Figures 1-10).
- ☐ Assignment of the invention to DCI Marketing, Inc.
- ☐ Assignment Recordation Cover Sheet.

Atty. Dkt. No. 023720-0284

☐ Small Entity statement(s).☐ Application Data Sheet (37 CFR 1.76).

The filing fee is calculated below:

	Rate	Fee Totals
Basic Fee	\$160.00	\$160.00
Surcharge under 37 CFR 1.16(e) for late payment of filing fee	+ \$0.00 =	\$0.00
	SUBTOTAL: =	\$160.00
<input type="checkbox"/> Small Entity Fees Apply (subtract 1/2 of above):	=	\$0.00
	TOTAL FILING FEE: =	\$160.00

☒ A check in the amount of \$160.00 to cover the filing fee is enclosed.☐ The required filing fees are not enclosed but will be submitted in response to the Notice to File Missing Parts of Application.☒ The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 06-1447. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Assistant Commissioner is authorized to charge the unpaid amount to Deposit Account No. 06-1447.

Please direct all correspondence to the undersigned attorney or agent at the address indicated below.

Respectfully submitted,

Date 6/13/03By Scott M. DayFOLEY & LARDNER  
Customer Number: 26371

26371

PATENT TRADEMARK OFFICE

Telephone: (414) 297-5872

Facsimile: (414) 297-4900

Scott M. Day  
Attorney for Applicant  
Registration No. 52,801

60478700 .061303

Attorney Docket No. 023720-0284

**U.S. PROVISIONAL PATENT APPLICATION**

**for**

**MERCHANDISING SYSTEM**

Provisionally Identified Inventors:

Allen E. Johnson

M. Scott Bryson

## **MERCHANDISING SYSTEM**

### **Field of the Invention(s)**

The present invention(s) relate to a merchandising system. The present invention(s) more specifically relate to a merchandising system providing for orderly presentation, display, storage, arrangement, and dispensing of articles.

### **Background**

It is known to provide for merchandising systems that may be used for displaying and dispensing an article. Such merchandising systems do not realize certain advantageous features (and/or combinations of features).

### **Outline of Basic and Other Advantageous Features**

It would be desirable to provide a merchandising system or the like of a type disclosed in the present application that includes any one or more of these or other advantageous features:

- a. A merchandising system that is simple to use, construct, and manufacture.
- b. A merchandising system that may provide for relatively neat and orderly presentation of articles.
- c. A merchandising system that may allow for smooth, efficient gliding of articles along the length of the system.
- d. A merchandising system that urges articles towards the front of the system when an article is removed from the system.
- e. A merchandising system that provides for the merchandising of a variety of differently sized articles.
- f. A merchandising system that can be configured to operate with a variety of shelving structures.
- g. A merchandising system that retains articles for proper dispensing.
- h. A merchandising system that can be easily repositioned on a shelving structure.

- i. A merchandising system that is capable of making efficient use of shelf facing space by providing information about the articles provided on the merchandising system at locations that are easy to see and that do not interfere with the use of the merchandising system.
- j. A merchandising system that is easily loaded with articles and allows for easy removal of the articles.
- k. A merchandising system that provides convenient and simple access to the articles in the merchandising system.

#### **Brief Description of the Drawings**

FIGURE 1 is a side perspective view of a merchandising system according to an exemplary embodiment.

FIGURE 2 is a side view of the merchandising system.

FIGURE 3 is an exploded perspective view of the merchandising system comprising selected components.

FIGURE 4 is a partial side perspective view of the merchandising system showing a custom stamped hook in greater detail.

FIGURE 5 is a bottom perspective view of a merchandising system according to an exemplary embodiment.

FIGURE 6 is side perspective view of a merchandising system according to an exemplary embodiment.

FIGURE 7 is a side view of the merchandising system.

FIGURE 8 is an exploded perspective view of the merchandising system comprising selected components.

FIGURE 9 is side perspective view of a merchandising system according to an exemplary embodiment.

FIGURE 10 is an image of various articles provided on merchandising systems according to an exemplary embodiment.

#### **Brief Outline of Certain Elements and Assemblies**

A merchandising system may be provided for the storage and/or presentation of articles (such as product) in a retail, sales or other environment. The merchandising system may be used to display articles, such as food packages, to consumers in a grocery store. The merchandising system may also be used in other environments such as warehouses, product

storage locations, distribution centers and the like in which objects are to be supported and displayed.

According to various exemplary embodiments shown in the FIGURES, a merchandising system (e.g., grid system, tray system, shelf system, display system, case, divider system, storage system, modular system, etc.) may comprise a base system and a support system.

1. Base System (e.g., mounting structure, shelving structure, support, framework, frame, base, bar, grid, etc.)

A base system may be provided for use with the merchandising system. According to exemplary embodiments shown in the FIGURES, the base system may comprise a bar.

a. Bar labeled as a MAGNA-BAR™ and a "V" bar (e.g., shaft, rod, pole, beam, support, frame, mount, bracket, member, slat wall, grid, etc.).

As shown in the FIGURES, a bar or other support may be provided for use with the base system. According to an exemplary embodiment shown in FIGURES 1 through 3 and 5, the bar may comprise four sides with an overall rectangular shape. At least one side may be provided with one or more aperture and/or slot. The one or more aperture and/or slot allows a means for positioning the support system with respect to the base system. According to a particularly preferred embodiment, the bar is commercially available under the name MAGNA-BAR™ from Cannon Equipment Company of Rosemount, Minnesota.

According to another exemplary embodiment shown in FIGURES 6 through 9, the bar may comprise a first and second portion. The first and second portions may be coupled together to create a channel or "V" shaped area. According to a particularly preferred embodiment, the bar is commercially available under the name "V" bar from Cannon Equipment Company of Rosemount, Minnesota.

According to various alternative embodiments, a wide variety of bars, shafts, rods, poles, supports, frames, beams, etc. may be provided in the merchandising system. According to alternative embodiments, the number, size, position, overall configuration, etc. of the bar may vary.

2. Support System (e.g., frame, tray, shelf system, holder, etc.)

A support system may be provided for use with the merchandising system. According to exemplary embodiments shown in the FIGURES, the support system may comprise a member, a track, and a pusher assembly.

a. Member (e.g., peg, arm, guide, rod, hook, shaft, wire, beam, bar, etc.)

According to an exemplary embodiment shown in the FIGURES, the member (shown as a peg) comprises a body portion, a first end, a second end, and a hook. Referring to FIGURES 1 through 10, the body portion (e.g., member, straight section or portion, main section or portion, etc.) is configured to receive and support articles in the merchandising system

between the first end and the second end. The body portion has a generally uniform circular cross-section and is configured to have a longitudinal axis that extends substantially parallel to the Z-Z axis in FIGURES 2 and 7. According to other embodiments, the member may have a cross-section of various shapes (e.g., triangular, rectangular, oval, etc.) and its longitudinal axis may be other than straight, such as curved or arched. Further, the cross-section of the body portion may be non-uniform.

As shown in the FIGURES, the first end comprises a hook (e.g., curved end, bow, angle, etc.). The hook is configured to facilitate the stocking or loading of articles onto the member while providing resistance against removal or dispensing of articles. The hook helps prevent articles from being pushed by the pusher assembly off of the member. In the preferred embodiment, the hook extends upward from the member at the first end in an at least partially vertical direction. According to alternative embodiments, the hook may extend in any direction or multiple directions (e.g., downward, sideways, up and down, etc.). For example, the hook may extend sharply upward at a 90 degree angle at the first end of the member. The second end is preferably configured to be positioned within an aperture or slot located on the bar. In order to support the member, the member is positioned within an aperture (or slot) on a front side and a back side of the bar.

According to an exemplary embodiment, the member comprises projections – (e.g., extensions, protrusions, interfaces, stops, bumps, bulges, etc.). As best shown in FIGURE 4, the projections (shown as extensions) protrude from the sides of the member near the first end. The projections are configured to apply resistance to the articles against the biasing force provided by the pusher assembly. The member includes two projections that protrude from opposite sides of the member. The projections are preferably in the shape of a flattened half circle and extend from the member in such a way that the longitudinal axis of the member and the plane of the half circle are coplanar. In other embodiments, the shape, location, number, overall configuration, etc. of the projections may vary. For example, the member may include more than two projections that each have varying shapes (e.g., triangular, rectangular, etc.).

b. Track (e.g., guide, beam, member, etc.)

According to an exemplary embodiment shown in the FIGURES, the track includes a frame, flanges, a stop or barrier, a front, and a mounting structure.

i. Frame (e.g., base, member, guide, beam, support, frame, etc.).

According to an exemplary embodiment shown in the FIGURES, a track may be provided with a frame (shown as a base) that is a substantially flat panel oriented to be generally coextensive with the member. For example, as shown in FIGURES 1, 2, 5, 6 and 9, the frame runs substantially parallel to and at least some distance above the member. According to various alternative embodiments, the frame may be located on any side of the member (e.g., above, below, left, right, anywhere in between, etc.) and may be configured in a non-parallel orientation with respect to the member.

ii. Flanges (e.g., ridges, grooves, ribs, runners, supports, etc.).

According to an exemplary embodiment shown in the FIGURES, the track may



be provided with flanges that are coupled to, attached to, affixed to, etc. the frame. The flanges are attached at opposite sides of the frame to provide an overall guide, track, or support upon which the pusher assembly may slide or otherwise travel. The flanges have a rectangular cross section. According to alternative embodiments, the flanges may have a cross section of any other shape (e.g., oval, circular, triangular, etc.) that will allow the flanges to engage, couple, or interact with the pusher assembly. According to a preferred embodiment, the flanges are integrally formed with the frame. According to various alternative embodiments, the flanges may be formed separately and then connected to the frame by suitable attachment process (e.g., gluing, taping, adhering, etc.).

iii. Stop or barrier (e.g., front stop, stopper, block, obstruction, plug, cap, etc.) According to an exemplary embodiment shown in FIGURES 1 through 3 and 5 through 9, the track may be provided with a stop or barrier (shown as a front stop) that couples to (e.g., connects to, attaches to, is affixed to, etc.) the first end of the frame. According to the illustrated embodiment, the stop or barrier is a cap that fits over the first end of the frame. The stop or barrier may be configured such that it restrains the movement of articles being urged forward by the pusher assembly. According to alternative embodiments, other members may be provided to restrain such movement.

iv. Front (e.g., display surface, label holder, sign, panel, cap, etc.) According to an exemplary embodiment shown in FIGURES 1 and 5, a track may be provided with a front (shown as a display surface) that couples to (e.g., connects to, attaches to, is affixed to, etc.) the first end of the frame. The front may hold various signage which may be replaced or updated by removing the sign from the surface. In an exemplary embodiment, signs are slid into a slot or slots provided on the front. The front may be configured such that it restrains the movement of articles being urged forward by the pusher assembly. According to alternative embodiments, other members may be provided to restrain such movement.

v. Mounting Structure (e.g., bracket, brace, support, etc.). According to an exemplary embodiment shown the FIGURES, a track may be provided with a mounting structure that couples, attaches, secures, mounts, etc. the frame to the base system.

According to an exemplary embodiment shown in FIGURES 1, 2, 3, and 5, the mounting structure includes two parallel panels (shown as clips) spaced apart from one another that are configured to be coupled to, mounted to, affixed to, molded to, fused with etc. the second end of the frame. The panels may be attached to the frame in such a way that they form a "U" shaped channel that is adapted to fit over, or couple to, a part of the base system, such as the MAGNA-BAR™ commercially available from Cannon Equipment Company of Rosemount, Minnesota. To secure the mounting structure to the base system, the distal ends of the panels may include inwardly facing projections (e.g., snap hooks) configured to snap over a distal edge of the base system when the channel is positioned over the base system. As the base system enters the channel, the base system pushes against the projections, causing the panels to flex

outwardly. When the projections clear the sides of the shelving structure, the flex in the panels causes the projections to snap inwardly, thereby securing the base system in the channel.

According to another exemplary embodiment shown in FIGURES 6 through 9, the mounting structure includes a pair of panels that are coupled to, mounted to, affixed to, molded to, etc. the frame. The panels are adapted to fit over and around a channel provided by the base system, such as the channel provided by the "V" bar commercially available from Cannon Equipment Company of Rosemount, Minnesota. Flanges (e.g., arms, platforms, etc.) extend outwardly from the panels to act as clamps in order to secure the frame to the base system.

c. Pusher Assembly

As shown in the FIGURES, the merchandising system may include a pusher assembly. According to an exemplary embodiment, the pusher assembly includes a pusher and a biasing member (or biasing mechanism).

i. Pusher (e.g., follower, plate, pusher plate, pusher paddle, pusher face, etc.). According to an exemplary embodiment shown in the FIGURES, a pusher (shown as a follower) may be provided for contacting, coacting, or pushing against articles placed on the member. The pusher includes a flat face or surface for pressing or pushing against articles. The flat face or surface includes a slot, opening, or aperture to allow the face to move along the length of the member. The pusher includes one or more channels, flanges, arms, fingers, etc. that are configured to slidably engage or otherwise couple to the flanges provided on the track. According to alternative embodiments, the pusher may be provided in a variety of sizes and shapes depending on the particular needs associated with the overall merchandising system.

ii. Biasing Mechanism (e.g., spring, coil spring, biasing element, etc.). According to an exemplary embodiment shown in the FIGURES, a biasing mechanism (shown as a spring) may be provided to bias or push the pusher toward the first end of the member. The biasing mechanism is connected to the track by a hook that fits within a receiving area located on the first end of the track. According to alternative embodiments, the biasing mechanism may be attached to the track by any suitable means such as fasteners, screws, rivets, bolts, snaps, clips, clamps or other various connectors or connection methods. As shown in the FIGURES, the coiled portion of the biasing mechanism is provided on a back side of the pusher such that when the pusher is retracted (e.g., pulled toward the back of the merchandising system) the biasing mechanism will bias the pusher in a forwardly direction.

**Materials and Construction**

According to various exemplary embodiments, the assemblies and components of the merchandising system may be constructed from a variety of suitable materials, including

metals, metal alloys, aluminum, polymers, composites, plastics (including high impact plastics and injection molded plastic), ceramics, etc.

The base system (shown as a bar) may be constructed from metal, metal alloys, aluminum, plastics, polymers, composites, etc. According to other alternative embodiments, any other suitable material may be used to construct the base system.

The member may be constructed from metal, metal alloys, aluminum, plastics, polymers, composites, etc. According to other alternative embodiments, any other suitable material may be used to construct the member. According to an exemplary embodiment, the member may be chrome plated to improve aesthetic appeal.

The track and pusher assembly may generally be made from injection molded plastic or from a variety of other plastics, polymers, composites, and processes. For example, the tracks may be constructed from high-impact plastics, polymers, other plastics, and the like. The various components of the track may be formed separately and then connected using a sonic welding process (or other suitable attachment technique). Using plastic offers several advantages including that the pieces are moldable in a variety of different colors, surface finishes, textures, etc. Other suitable materials (including metal, metal alloys, aluminum, etc.) may be used according to alternative embodiments.

#### **Basic Operation**

According to an exemplary embodiment, the merchandising system provides a self-facing member or peg. As articles (such as products and merchandise) are placed on the member, the pusher moves backwards toward the rear (shown as the second end) of the member. As articles are removed from the merchandising system, the pusher is urged forward by a biasing mechanism (shown as a spring) thereby causing the articles remaining on the member to be pushed forward to the front of the merchandising system. When an article at the front of the member (first article) is removed from the merchandising system, the article immediately behind it (second article) is moved into the position previously occupied by the first article. Similarly, the article immediately behind the second article (third article) is moved into the position previously occupied by the second article, and so on.

According to an exemplary embodiment, the member is mounted to a base system, such as a MAGNA-BAR™ or a "V" bar. The track is mounted to the base system such that the track is positioned above the member. The pusher assembly is provided on the bottom side of the track, and the opening in the pusher allows the face of the pusher to substantially surround the member. This configuration allows the merchandising system to apply a generally uniform force around the member, which helps to prevent articles from twisting on the member. If an article were to twist while on the member, it could bind and prevent the merchandising system from operating properly. The force (generally uniform) applied by the pusher is advantageous because it helps to ensure that the merchandising system functions properly.

According to exemplary embodiments, the merchandising system may be used with different base systems. For example, the merchandising system may be configured such that the track snaps onto a MAGNA-BAR™. According to alternative embodiments, the

merchandising system may be configured such that the track is clamped to a "V" bar. According to other embodiments, the track may be configured to couple to a variety of different base systems (e.g., other than a MAGNA-BART<sup>TM</sup>, a "V" bar, or of other types).

According to an exemplary embodiment, the pusher is slidable along the flanges provided on the track. To apply a biasing force to the pusher, the coiled portion of the biasing mechanism is placed behind the pusher and the hook of the biasing mechanism is mounted to a receiving area on the first end of the track. The pusher is biased to move (or urged) towards the first end of the track. As the pusher moves toward the first end of the track, it comes into contact with articles placed on the member and urges these articles towards the first end of the member.

According to an exemplary embodiment, the projections provided on the member, along with the hook of the member, provide resistance against force applied by the pusher urging articles toward the first end of the member. In the illustrated embodiment, the projections and the hook of the member are configured such that the removal of an article from the member requires more force than the pusher assembly provides. The pusher assembly provides enough force to overcome the friction that may be present between the articles and the member, thereby enabling movement of the articles toward the first end of the member.

According to an exemplary embodiment, the stop or barrier is provided on the first end of the track to prevent the pusher assembly from sliding off the track. When articles are loaded onto the member, the projections and hook restrain the articles, thereby preventing the pusher from sliding off the front of the track. However, when there are no articles loaded on the member or when the last article is removed from the member, the stop or barrier prevents the pusher assembly from sliding off the front of the track. According to an alternative embodiment, a front may be provided that is configured to receive labels, tags or other indicia that provide information about the articles or merchandise on the corresponding member. This is advantageous in that it simultaneously prevents the pusher from disengaging with the track while also making effective use of shelf space.

\* \* \*

It is also important to note that the construction and arrangement of the elements of the merchandising system as shown in the preferred and other exemplary embodiments is illustrative only. Although only a few embodiments of the present inventions have been described in detail in this disclosure, those skilled in the art who review this disclosure will readily appreciate that many modifications are possible (e.g., variations in sizes, dimensions, structures, shapes and proportions of the various elements, values of parameters, mounting arrangements, use of materials, colors, orientations, etc.) without materially departing from the novel teachings and advantages of the subject matter recited. For example, elements shown as integrally formed may be constructed of multiple parts or elements shown as multiple parts may be integrally formed, the operation of the interfaces (e.g., clamps, hooks, flanges, etc.) may be reversed or otherwise varied, the length or width of the structures and/or members or connector or other elements of the system may be varied, the nature or number of adjustment positions provided between the elements may be varied (e.g., by variations in the number of engagement slots or size of the engagement slots or type of engagement). It should be noted that the elements and/or assemblies of the system may be constructed from any of a wide variety of materials that

provide sufficient strength or durability, in any of a wide variety of colors, textures and combinations. It should also be noted that the display system may be used in association with a rotating display, fixed and non-movable displays, or any of a wide variety of other surfaces in any of a wide variety of other applications. Accordingly, all such modifications are intended to be included within the scope of the present inventions. Other substitutions, modifications, changes and omissions may be made in the design, operating conditions and arrangement of the preferred and other exemplary embodiments without departing from the spirit of the present inventions.

**FIGURE 1**

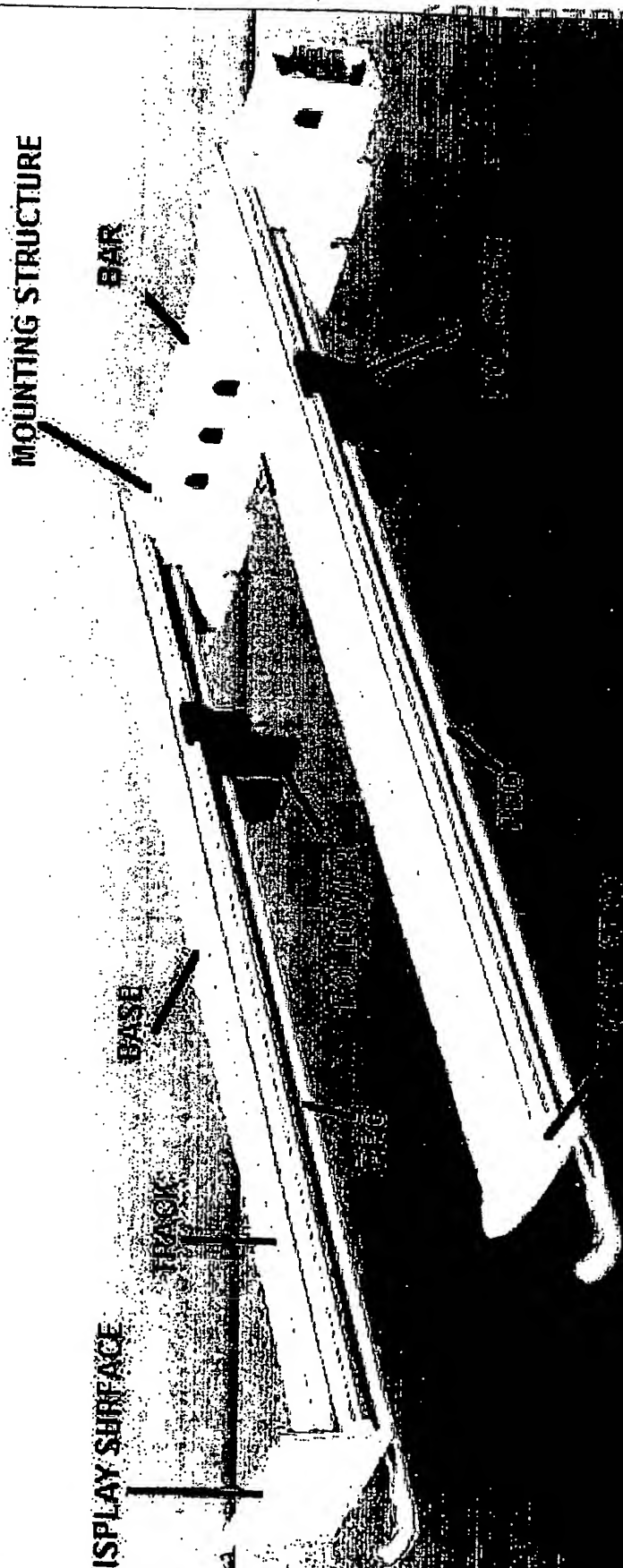
**MOUNTING STRUCTURE**

**BAR**

**BASE**

**TRACK**

**DISPLAY SURFACE**



MAGNA-BAR™

TRACK

FOLLOWER

MOUNTING STRUCTURE

FIGURE 2

FIGURE 2

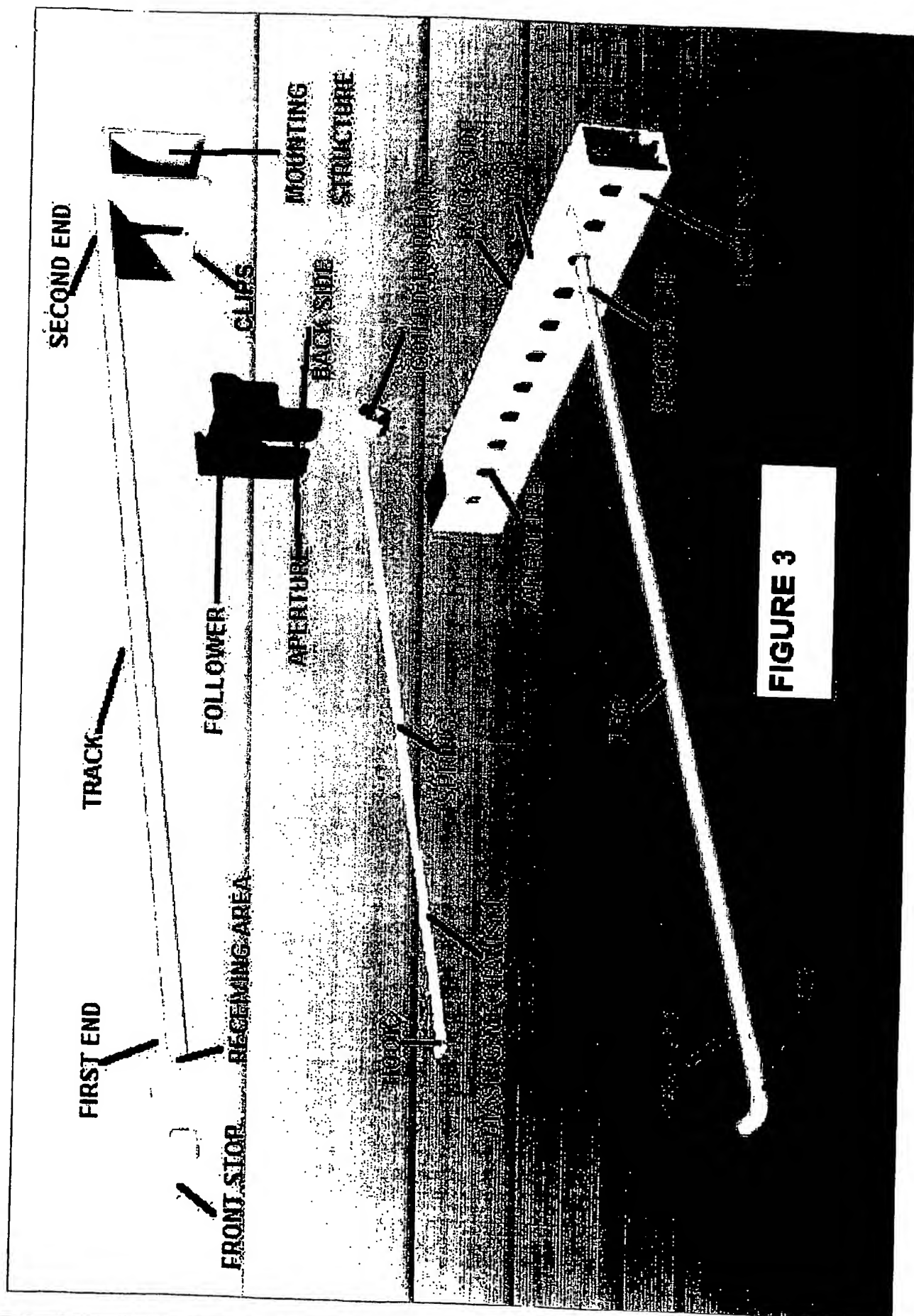
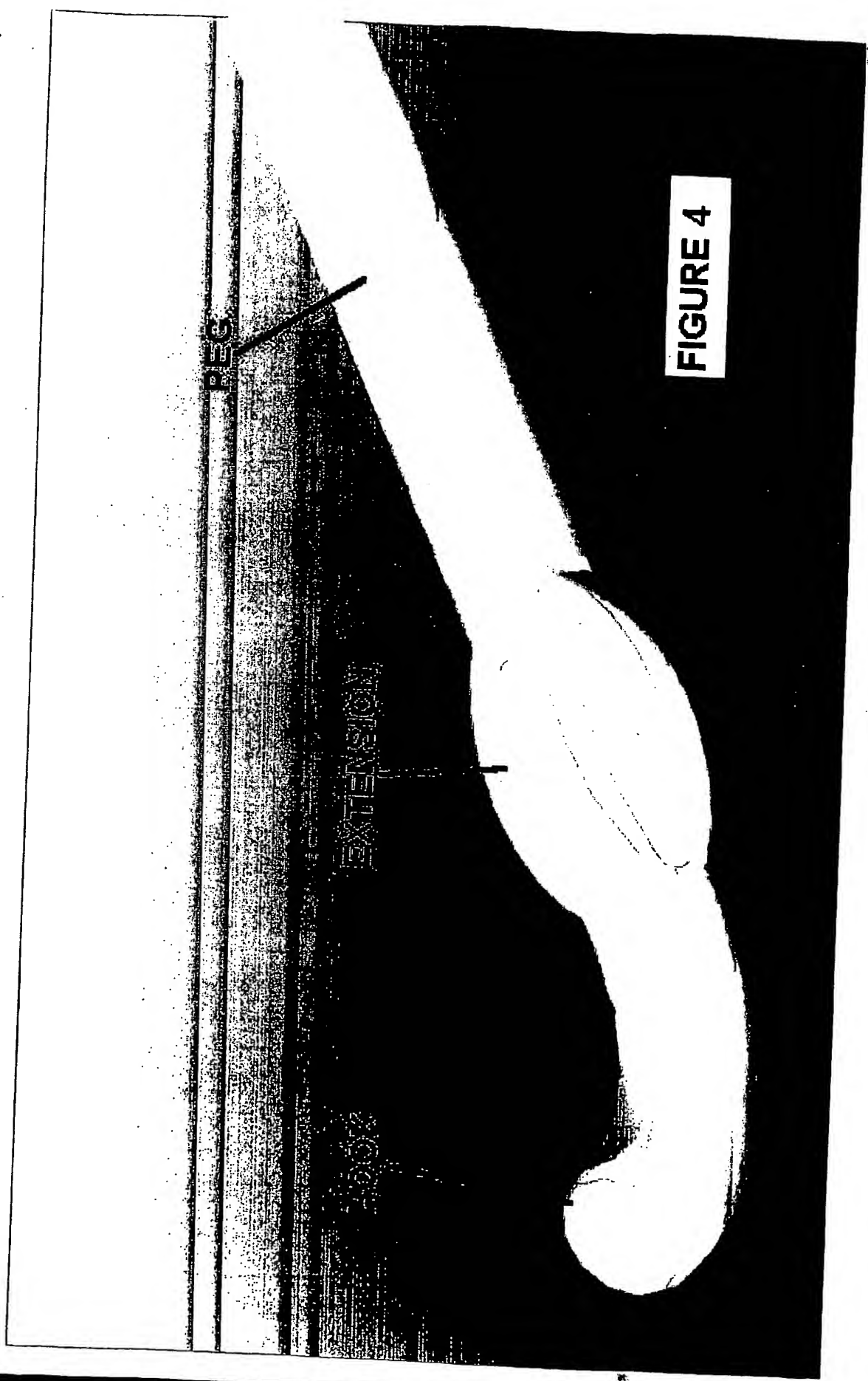


FIGURE 3



FIGURE 4



FRONT STOP

DISPLAY SURFACE

TRACK

HOOK

BIASING MECHANISM

EXTENSION

COLLECTOR

TRACK

BIASING MECHANISM

EXTENSION

FIGURE 5

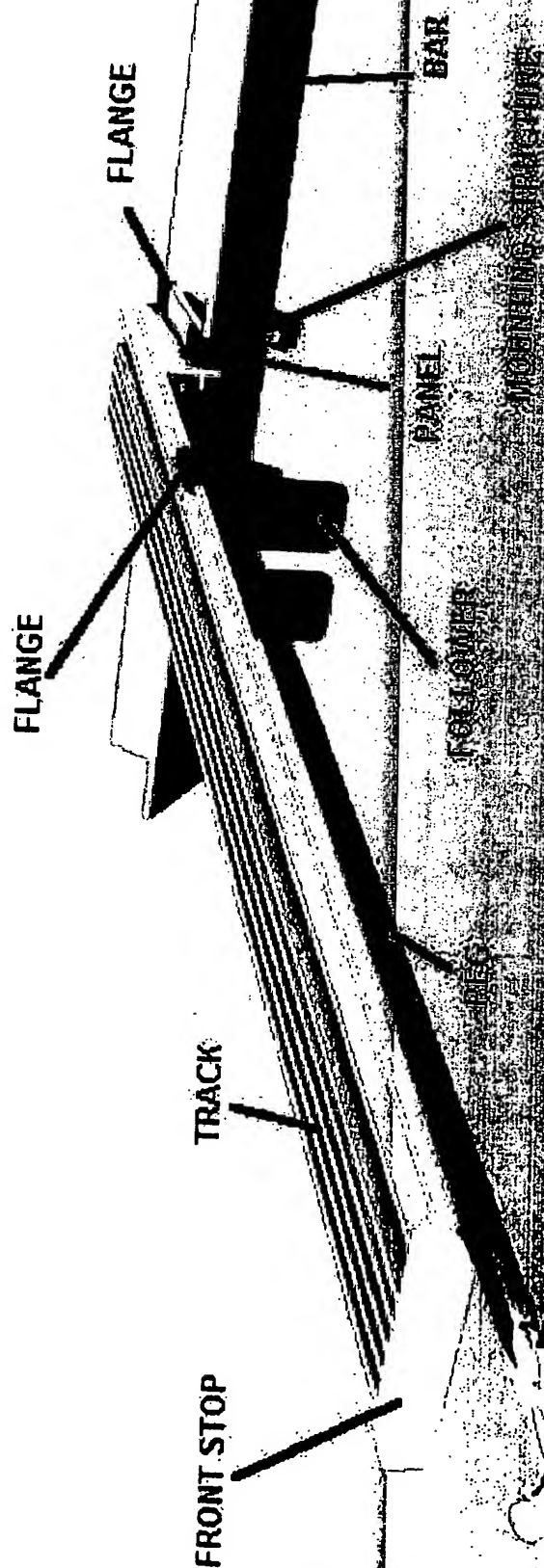


FIGURE 6

60473750 061702

**FIGURE 7**

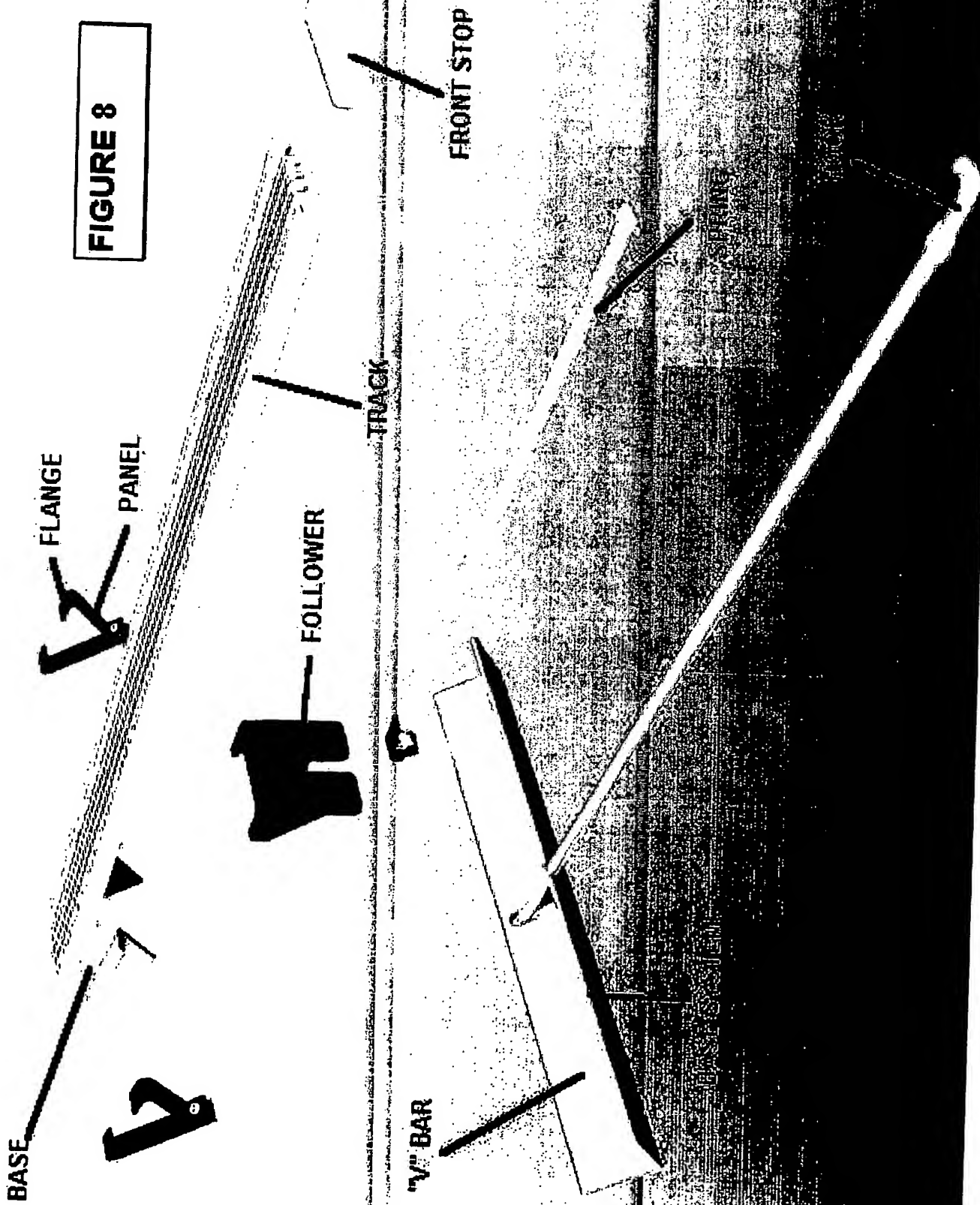
**TRACK**

**"V" BAR**

**MOUNTING STRUCTURE**



FIGURE 8



60478700

"V" BAR

MOUNTING STRUCTURE

FOLEOWER

ARERTURE

REC

BASE

FRONT STOP

FIGURE 9





FIGURE 10

# Document made available under the Patent Cooperation Treaty (PCT)

International application number: PCT/US04/018860

International filing date: 10 June 2004 (10.06.2004)

Document type: Certified copy of priority document

Document details: Country/Office: US  
Number: 60/478,700  
Filing date: 13 June 2003 (13.06.2003)

Date of receipt at the International Bureau: 29 November 2004 (29.11.2004)

Remark: Priority document submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b)



World Intellectual Property Organization (WIPO) - Geneva, Switzerland  
Organisation Mondiale de la Propriété Intellectuelle (OMPI) - Genève, Suisse



**This Page is Inserted by IFW Indexing and Scanning  
Operations and is not part of the Official Record**

**BEST AVAILABLE IMAGES**

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

☒ **BLACK BORDERS**

☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**

☐ **FADED TEXT OR DRAWING**

☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**

☐ **SKEWED/SLANTED IMAGES**

☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**

☐ **GRAY SCALE DOCUMENTS**

☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**

☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**

☐ **OTHER:** \_\_\_\_\_

**IMAGES ARE BEST AVAILABLE COPY.**

**As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.**